three conditions, (1) labile, (2) active, (3) inactive; that, *e. g.*, the *nanella* pangen or factor for tallness is labile in *Lamarckiana* since that species can give rise to *nanella* through a mutation, while it is only active in *rubrinervis* since the latter can not give rise to *nanella*. In *nanella* it is considered inactive rather than absent. Correlated with this is the fact that, as we have seen above, *Lamarckiana* × *nanella* splits off dwarfs in $F_1$, while *rubrinervis* × *nanella* splits them off in Mendelian fashion, *i. e.*, in $F_2$.

Instead of the impossible and self-contradictory assumptions regarding degeneration of certain classes of germ cells or zygotes in the various crosses, DeVries made the one assumption that in the zygotes of, *e. g.*, *Lamarckiana* × *nanella* either one or the other form or condition obtains ascendency, to the complete exclusion of the other form in later generations. This view is at least self-consistent, which cannot be said of the Mendelian "explanation." If any Mendelian can suggest an alternative explanation which avoids the pitfalls pointed out above, we shall be glad to see it. We have shown at any rate that in the particular group of crosses considered above, the attempt to hide behind sterility as a means of offering a Mendelian explanation only leads to difficulties. So far as we can see, the Mendelian explanation fails hopelessly in all these cases and in others as well.

It will be time enough to consider East's other objections to the point of view of my book when the points discussed above have been cleared up.

## AN OVERLOOKED ENVIRONMENTAL FACTOR FOR SPECIES OF PRUNUS.

Roland M. Harper.

In the March number of Rhodora, pages 66–70, Mr. Bayard Long reports finding *Prunus cuneata* on the southeast side of a creek or small river in the pine-barrens of Ocean County, New Jersey, especially on a gravelly railroad embankment in the creek swamp; and he discusses at some length the question of whether it can be native there, in view of the fact that no other stations for it are known within many miles.

A minor point in his discussion may as well be disposed of first. Assuming that the plants at the top of the railroad cut nearest the creek are indigenous, it probably matters little whether the soil of the neighboring embankment where they grow more luxuriantly came from that cut or a thousand miles away, for the seeds are just as likely to have been transported to that spot by birds or other animals as in the cars that hauled the earth many years ago.

Mr. Long did not seem to grasp the significance of the location of his plants with reference to the creek swamp. The typical pine-barrens of New Jersey, as is well known, are burned over every few years; but the edge of a swamp, being protected on one side, is less subject to fire, especially *on the side away from the main body of pine-barrens*, as in the present instance; and a gravelly embankment in a swamp ought to be almost wholly exempt from fire.

Plants not provided with thick bark or subterranean stems cannot endure frequent fires, and no species of *Prunus* (including the sections or subgenera *Padus*, *Cerasus*, etc.), in eastern North America at least, seems to be very well protected in either of these ways. Of those the writer is acquainted with, *P. serotina*, *P. umbellata*, *P. Americana*, *P. Caroliniana* and *P. sphaerocarpa* grow mostly in rich woods, where there is too little undergrowth to make much of a blaze. *P. angustifolia* is a weed of old fields and fence-rows, and *P. serotina* is found in such situations about as often as in natural habitats. *P. Pennsylvanica* is one of the characteristic "fireweeds," that spring up in the intervals between fire in the northern coniferous forests, and *P. pumila* and *P. maritima* prefer sandy and rocky shores, where the vegetation is too sparse to carry fire and the water affords protection on one side. *P. Besseyi* grows in the barrenest places on the sand-hills of Nebraska and neighboring states, where the vegetation is sparsest,[1] and *P. geniculata* on high sandy hills in the lake region of central Florida, where fire is less frequent than in the more grassy typical pine-barrens.[2]

Possibly some reader may recall seeing some species of *Prunus* touched by fire and not killed; but a few exceptions will not materially affect the truth of the assertion now made that fire, whether of natural or artificial origin, is much less frequent in the habitats affected by

[1] See Pool, Minn. Bot. Stud. **4**: 230, 236, 239. 1914; and review in Bull. Am. Geog. Soc. **47**: 873–874. 1915. The writer made the acquaintance of this shrub in northeastern Colorado after that review was written.

[2] See Torreya **11**: 64–67. 1911.

species of *Prunus* than in the case of some other woody plants, the pines and oaks for instance. The interested reader may find it worth while to study the statements about the habitats of *Prunus* in Sargent's Silva, Wight's Native American species of Prunus (U. S. Dept. Agr. Bull. 179. 1915), and some of the more elaborate local floras, such as the recent flora of Connecticut by Graves and others, Stone's flora of southern New Jersey (referred to by Mr. Long, and reviewed by the writer in Torreya **12**: 216–225. 1912), Kearney's Botanical Survey of the Dismal Swamp region, and Mohr's Plant Life of Alabama.

Many other genera of plants of course are just as sensitive to fire as *Prunus* is, and any one who wishes to look further into the effects of this neglected environmental factor can find references and cross-references in the following places:— Bull. Torrey Bot. Club **38**: 522. 1911, **41**: 217. 1914; Torreya **12**: 147, 219. 1912; **15**: 30. 1915; Geol. Surv. Ala. Monog. **8**: 211. 1913; Pop. Sci. Monthly **85**: 338. 1914; Ann. Rep. Fla. Geol. Surv. **6**: 184–185, 282–283, 286, 442. 1914; **7**: 143, 147–148, 165, 335. 1915.

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Reprint of a rare Book on American Plants. — Mr. S. N. Rhoads of Philadelphia has made accessible to botanists, through reprinting, "the earliest published book, written by an American Botanist and devoted exclusively to American Botany, Horticulture and Floriculture." [1] This work is divided into two parts, 1. Catalogue d'Arbes, Arbustes, et plantes herbacées d'Amérique. 2. Liste des Arbres, Arbrisseaux & Plantes qu'on ne peut se procurer que par des voyages dispendieux dans le continent de l'Amérique, & que M. Yong n'a point encore élévés en assez grand nombre pour les envoyer en Europe. Many of the names are binomials and some of them are characterized as "nova species," but the descriptions are so meager and vague that they have little defining power, as for instance "*Angelica pastinaca, nova species.* Elle a 5 pieds de haut & croit dans un sol marécageux," and, therefore, they should not be taken up to displace names with good descriptions made later. This old book has been neglected or overlooked for many years. It does not appear in the botanical bibliographies and the new names are not cited in the Index Kewensis. William Young Jr., the author, was a nurseryman and a gardener, a near neighbor of John Bartram

[1] M. Yong [William Young, Jr.] Catalogue d'Arbres, Arbustes et plantes herbacées d'Amérique — Paris, 1783.